

Milken Institute School of Public Health

THE GEORGE WASHINGTON UNIVERSITY

Milken Institute School of Public Health

Master of Public Health MPH@GW Health Informatics & Analytics Concentration

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Concentration Mission Statement

The Health Informatics and Analytics (HIA) concentration will prepare students with the values, knowledge, and skills to obtain, analyze, manage and use health information to achieve optimal health care delivery and administration through sound clinical and business, operational, and strategic decisions.

Concentration Description

This distance education MPH program combines core MPH skills with an emphasis on interdisciplinary teaching and core competencies/skills by using cases/other materials from both the U.S. and abroad with a Health Informatics concentration that contains courses and skills to set students up for what lies ahead in the use of data and information to improve health. The pedagogy allows students to tailor their education to local, national, or global levels emphasizing interdisciplinary public health competencies including: biostatistics and epidemiology; cultural competency; health communication; leadership; professionalism; planning, implementation and evaluation methods; public health biology; and systems thinking.

Course Requirements

All Milken Institute School of Public Health (GWSPH) MPH students who select the distance education track enroll in Core Courses (17 credits), Program-Specific Courses (10 credits), Concentration Courses (11), and Electives (5 credits). The total 45 credit degree program also includes a Culminating Experience (2 credits).

Note that the MPH@GW track is taught in ten (10) week quarters throughout the calendar year (four (4) quarters per year). Each course is designed to deliver the required credit hours within the ten (10) week quarter format.

As an accredited School of Public Health, students in all GWSPH MPH programs are also required to fulfill both an interprofessional team experience and an applied practice experience. GWSPH has incorporated these requirements into

the curriculum as follows:

Interprofessional Education (IPE) Experience (PUBH 6023):

MPH students are required to select an IPE experience from a host of options provided throughout enrollment to participate in a one-time, case-based or activity-based learning experience. The IPE experience is a way to actively participate in a supervised environment to work with people from other professions/programs outside of public health. Students are eligible to enroll in the IPE upon successful completion of most of the MPH core coursework including: PUBH 6002, 6003, 6007, 6011, 6012 and 6021. Students will have many opportunities to register for this zero-credit (no fee) IPE course (PUBH 6023- Interprofessional Education Experience) and will receive credit upon successful completion.

Applied Practice Experience (Practicum & EPR) (PUBH 6000):

The Applied Practice Experience (APEX) may be satisfied with either a practicum or, for experienced public health professionals, through an expedited portfolio review (EPR).

The practicum is a planned, supervised, and evaluated practice experience that aims to provide students with an opportunity to synthesize, integrate, and apply practical skills, knowledge, and training learned through courses, to gain applied experience in a professional public health work environment, and to work on public health practice projects that are of particular interest to you. Information about the Practicum will be introduced through school-wide Practicum Information Sessions held by the Office of Applied Public Health and through meetings with your department practicum staff and faculty.

During the practicum, you will work at least 120 hours in the field under the supervision of the site preceptor who has agreed to directly supervise the work you are conducting. Students are required to fulfill all requirements of the 120-hour practicum to receive credit for PUBH 6000.

If you have had prior work experience, then you will find that the practicum provides the opportunity to hone skills or to gain new experience in a different area. However, if you have substantial public health experience relevant to your department/track, including 5+ years of full-time public health work for students after receiving your undergraduate degree, or 3+ years of full-time work for students who already have a graduate degree prior to beginning the MPH, then you may be able to satisfy the APEX requirement through an EPR instead of doing the practicum, with advanced approval by your program's practicum team.

Course Sequencing

Students begin by taking the core MPH courses. Full-time students should plan to take PUBH 6021 and PUBH 6003 in their first term and complete all MPH core courses within the first three terms. Part-time students should consult with their academic advisor to select an appropriate sequence of courses. Following completion of the core MPH coursework, students should complete the MPH@GW program specific courses, and finish with their elective and/or concentration selections. Courses offered in the online format can be found on the GW Schedule of Classes under Online and are designated with a "U" in the section number.

Following completion of the core MPH courses, students who elect the Health Informatics and Analytics (HIA) concentration will take four MPH@GW required courses (PUBH 6442, 6500, 6503 and 6552). and three required HIA concentration courses (PUBH 6704, 6730, and 6706). In addition, students will take at least two more courses from the list of HIA selective courses (PUBH 6703, 6705, 6714, 6717, and/or 6894).

The HIA concentration also provides room for up to 2 elective credits that can be used for any MPH@GW elective course, including one of the HIA selective course not chosen. Electives may be taken in the residential program provided pre-requisites have been met.

MPH Core Competencies

Upon completion of the program, students should possess the following functional competencies:

- Apply epidemiological methods to the breadth of settings and situations in public health practice
 - PUBH 6003
- Select quantitative and qualitative data collection methods appropriate for a given public health context

- PUBH 6002, PUBH 6003, PUBH 6009
- Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
 - PUBH 6002, PUBH 6009
- Interpret results of data analysis for public health research, policy or practice
 - PUBH 6002, PUBH 6003, PUBH 6009
- Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
 - PUBH 6012
- Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels
 - PUBH 6007
- Assess population needs, assets, and capacities that affect communities' health
 - PUBH 6003, PUBH 6007
- Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
 - PUBH 6007, PUBH 6021, PUBH 6022
- Design a population-based policy, program, project or intervention
 - PUBH 6007
- Explain basic principles and tools of budget and resource management
 - PUBH 6022
- Select methods to evaluate public health programs
 - PUBH 6009
- Discuss multiple dimensions of the policy making process, including the roles of ethics and evidence
 - PUBH 6011, PUBH 6012
- Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
 - PUBH 6022, PUBH 6023
- Advocate for political, social or economic policies and programs that will improve health in diverse populations
 - PUBH 6022
- Evaluate policies for their impact on public health and health equity
 - PUBH 6012
- Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making
 - PUBH 6021, PUBH 6022
- Apply negotiation and mediation skills to address organizational or community challenges
 - PUBH 6021, PUBH 6022
- Select communication strategies for different audiences and sectors
 - PUBH 6021, PUBH 6022
- Communicate audience-appropriate public health content, both in writing and through oral presentation
 - PUBH 6012, PUBH 6021, PUBH 6022
- Describe the importance of cultural competence in communicating public health content
 - PUBH 6021, PUBH 6022
- Perform effectively on interprofessional teams
 - PUBH 6021, PUBH 6023
- Apply systems thinking tools to a public health issue
 - PUBH 6007, PUBH 6011, PUBH 6022

MPH@GW Program Competencies

Upon completion of the program, students should possess the following functional competencies:

- Define communities and identify and assess relevant population health needs (e.g., PUBH 6500).

- Assess the functions, capacities, management and governance of governmental, international, and non-state organizations that comprise health systems. Translate scientific and program evidence to inform the development of public health programs and policies within the context of health systems (e.g., PUBH 6442 & 6500)
- Apply appropriate theories toward the development, implementation, and evaluation of public health interventions to address health risks at the individual, interpersonal, community, and/or population levels and mitigate population health impact. (e.g., PUBH 6500).
- Apply relevant quantitative tools and concepts to inform different audiences and public health topics (e.g., PUBH 6052).
- Describe how health systems performance is affected by various approaches to health care organization, health law, health workforce development and health care financing (e.g., PUBH 6442).
- Develop communication campaigns and strategies to disseminate health promotion information through media channels (e.g., PUBH 6503).

HIA Concentration Goals

1. Use appropriate health information technology (IT), informatics and data terms.
2. Demonstrate strategies that apply data and health IT structures, policies and processes.
3. Consult with stakeholders to identify health IT solutions and present results.
4. Apply concepts of health informatics to areas of population health.
5. Solve healthcare issues through the optimization of health IT, related data, and business processes.
6. Assess the implications of health information technology and related data and processes.

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Program-at-a-Glance

Required MPH Core Courses		Credits	Term Offered
PUBH 6000	MPH Applied Practice Experience	0	All
PUBH 6002	Biostatistical Applications for Public Health	3	All
PUBH 6003	Principles and Practice of Epidemiology	3	All
PUBH 6007	Social and Behavioral Approaches to Public Health	2	All
PUBH 6009	Fundamentals of Program Evaluation	2	All
PUBH 6011	Environmental & Biological Foundations of Public Health	3	All
PUBH 6012	Fundamentals of Health Policy: Public Health and Healthcare	2	All
PUBH 6021	Essentials of Public Health Leadership & Practice 1: Leading Self and Teams in Public Health	1	All
PUBH 6022*	Essentials of Public Health Leadership & Practice 2: Managing Organizations & Influencing Systems in PH	1	All
PUBH 6023	Interprofessional Education Experience (IPE)	0	All
Total MPH Core Credits		17	
Required MPH@GW Program Specific Courses			
PUBH 6500	Program Planning and Evaluation	3	All
PUBH 6052	Practical Data Analysis for PH	2	All
PUBH 6442	Comparative Global Health Systems	2	All
PUBH 6503	Introduction to Public Health Communication and Marketing	3	All
Total Program-Specific Credits		10	
Required Concentration Courses- Health Informatics & Analytics			
PUBH 6704	Health IT, Informatics, and Decision Making	3	Spring 2
PUBH 6706	Population Health Analytics	3	Fall
PUBH 6703	Health Care Delivery and Health IT	2	Summer
PUBH 6705	Health Law and Health IT	3	Spring 1
Total Required Concentration Credits		11	

Suggested Electives for the Concentration - Health Informatics & Analytics			
PUBH 6730*	Health System and Health IT Applied Analysis Immersion*	2	Varies
PUBH 6717	Predictive Analytics: Applying the Concepts to Predictive Modeling	3	Spring 1
PUBH 6894	Research Analytics: Applying the Concepts to Analytics	3	Summer
* Students are strongly advised to enroll in the Immersion (PUBH 6730)			
Culminating Experience			
PUBH 6060	Culminating Experience I	1	All
PUBH 6061	Culminating Experience II	1	All
	CE Credits	2	

Course Distribution	Credits
Public Health Core Courses	17
Culminating Experience	2
Required Program Specific Courses	10
Required Concentration Courses	11
Elective Courses	5
Total Degree Credits	45

[^] MPH@GW students may take up to 15 credits on-campus.

Graduation Requirements MPH

1. **Graduate Credit Requirement:** 45 graduate credits are required.
2. **Course Requirements:** Successful completion of the core courses and the program-specific courses are required.
3. **Practicum Requirements:** Students are required to fulfill all requirements of the Applied Practice Experience (Practicum) to receive credit for PUBH 6000.
4. **Interprofessional Education Experience (IPE):** Students are required to enroll, participate , and complete an authorized IPE activity (PUBH 6023).
5. **Grade Point Requirement:** A 3.0 (B average) overall grade point average is required.
6. **Time Limit Requirement:** The degree must be completed within five years.
7. **Transfer Credit Policy:** Up to 12 graduate credits that have not been applied to a previous graduate degree may be transferred to the MPH upon approval. Credits must have been earned from an accredited institution in the last 3 years with a grade of B or better (grade point of 3.0 and higher).
8. **CITI Training requirement:** All students are required to complete training regarding human subject protection regulation and the Health Insurance Portability and Accountability Act of 1996 (HIPAA). To fulfill this requirement, you must complete the Collaborative IRB Training Initiative (CITI) Course in The Protection of Human Research Subjects.
9. **Integrity Quiz & Plagiarism requirement:** All students are required to review the George Washington University Code of Academic Integrity and take the quiz within their first semester of study. The Code of Integrity and step-by-step instructions can be found here: <http://publichealth.gwu.edu/integrity>.
10. **Professional Enhancement requirement:** Students must participate in 8 hours per degree program of Public Health-related lectures, seminars, and symposia related to your field of study. Professional Enhancement activities supplement the academic curriculum and help prepare students to participate actively in the professional community. Opportunities for professional enhancement are regularly publicized via the Milken Institute SPH Listserv and through your department or advisor. Students must submit documentation of Professional Enhancement activities to the Office of Student Records. Find the Professional Enhancement submission form [here](#) and include a description of the program agenda and proof of attendance.

Course Descriptions and Registration information can be found on in the University Bulletin [here](#).